# TOPICS TO BE COVERED

- Information Needs
- Types of Stream Gages
- Gage Housings and Construction
- Flow Meters
- Survey Equipment
- Station Location
- Stream Control
- Stage-Discharge Relationship
- Shift Curves and Adjustments
- Indirect Measurements for Discharge
- Field Differential Leveling and Computation
- Stream Reference Channel Setup
- Installation of a Gaging Site
- Problems at Gaging Stations

## REGISTRATION FORM

**Name**_____

**Company**_____

**Address**_____

**City**_____ **State**_____ **Zip**_____

**Work Phone (___)**_____ **Fax (____)**_____ **E-mail**_____

**Course Location**: Spokane County Conservation District Office, 210 N. Havana, Spokane, WA 99202
**Course Dates:** July 25-26, 2001
**Course Fee:** $200 (Check or Purchase Order)
*Fee includes*: Multiple USGS publications, course notes, refreshments, box lunch for field day, and transportation to field site.
**Refund Policy**: Full refund if canceled in writing at least 15 business days before beginning of course.

***Receipt of course confirmation will be emailed or faxed to participant.**
**Hotel reservation information will be sent with course confirmation.**

*Spokane County Conservation District*
*210 N. Havana*
*Spokane, WA 99202*

**Dr. Zchivago**
**Somewhere**
**Parts Unknown**

**REGISTRATION DEADLINE:** JUNE 25, 2001

*SPACE IS LIMITED*

# A Technical Training Workshop

# Establishing Stream Flow Stations

**July 25 and 26, 2001**
**Spokane, Washington**

❖

***Presented by the Spokane County Conservation District In cooperation with The U.S. Geological Survey and the Natural Resource Conservation Service***

❖


**Contact: Rick Noll**
**Phone: 509-535-7274**
**Fax: 509-535-7410**
**Email: rick-noll@sccd.org**
**Web: http://sccd.org**


**"Bringing People and Resources Together"**

## COURSE APPLICATION

***This workshop is designed for everyone who works with stream flow measurements or water resource issues that relate to the collection of flow data. Some common applications for stream gages are:***

- **Watershed planning projects**
- **TMDL assessments**
- **Basin wide flow networks**
- **Fish and wildlife enhancement**
- **Instream flow habitat**
- **Regulatory requirements**
- **Water quality data collection**

## TWO DAY COURSE

***This short course provides the training to familiarize water resource personnel with methods and equipment for monitoring water quantity projects and programs. This course is equally divided into classroom and fieldwork.***

**THE CLASSROOM will cover basic discharge equipment, measurements, records, available technology, and hydrological principles that will assist in the understanding and calculation of stream flow.**

**THE FIELD portion demonstrates the necessary steps for installation of a water level recording gage. Participants will work with surveying and flow instruments.**

## WHAT YOU WILL LEARN

### INSTALLATION:

- **Water level recording instrumentation**
- **Staff and crest gages**

### SURVEYING INSTRUCTION:

- **Bench marks**
- **Channel reference sites**
- **How to check survey data in the field during the survey to ensure accuracy**

### TECHNIQUES:

- **Discharge measurements at gaging stations**
- **Evaluation of stream reaches for long-term data collection**

### TECHNOLOGY:

- **Instruments and options for installation**
- **Types of gages and equipment**
- **Stream gage operation**
- **Basic stream hydrology**